State Of California **The Resources Agency of California**

Memorandum

Date : July 2, 1999
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To: Vice Chair, David Rohy, Ph.D.
Commissioner Michal C. Moore

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From: **California Energy Commission** -
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Marc Pryor
Siting Project Manager

Subject: **ELK HILLS POWER PROJECT ISSUES IDENTIFICATION REPORT**

Attached is the staff's Issue Identification Report. This report serves as a preliminary scoping document as it identifies the issues the Energy Commission staff believe will require careful attention and consideration. Energy Commission staff will present the issues report at the Committee's scheduled Informational Hearing on July 12, 1999 at the Valley Acres Community Center for in Valley Acres.

cc: Docket (99-AFC-1)
Ray Menebroker, California ARB
Tom Goff, San Joaquin Valley Unified APCD
Matt Haber, U.S. EPA, Region IX
Reza Ahfami, Central Valley Regional Water Quality Board
Thomas Clark, Kern County Water Agency
Jerry Pearson, West Kern Water District
David Rickels, Kern County Planning Dept.
Gabriele Kidwell, Kern County Waste Mgmt. Dept.
Capt. Ruben Padilla, Kern Co. Fire Sta. 24
Dale Mitchell, Department of Fish and Game
Mike Stettner, California Dept. of Oil and Gas
Peter Cross, U.S. Fish and Wildlife Service

Attachments

MSP:msp

ELK HILLS POWER PROJECT

(99-AFC-1)

ISSUE IDENTIFICATION REPORT

CALIFORNIA ENERGY COMMISSION

Energy Facilities Siting and Environmental Protection Division

July 2, 1999

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ISSUE IDENTIFICATION REPORT

PURPOSE

This report has been prepared by the California Energy Commission staff to inform the Committee and all interested parties of the potential issues that have been identified as a result of our site visits and discussions with other agencies and interested participants during prefiling and the data adequacy phase, and our review of the Elk Hills Power Project (EHPP) Application for Certification (AFC), Docket Number 99-AFC-1. This report contains a project description, a summary of potential issues and a discussion of the staff's proposed project schedule.

PROJECT DESCRIPTION

The Elk Hills Power, Limited Liability Company's[1] proposed Elk Hills Power Project (EHPP) will be a nominal 500-megawatt (MW), natural gas-fired combined cycle power plant located in the Elk Hills region of western Kern County. The site is about 25 miles west of Bakersfield, California, 9 miles south of the unincorporated community of Buttonwillow, California, and 9 miles north of Taft, California. The 12 acre site is a part of the 47,000 acre Elk Hills Oil and Gas Field operated by Occidental of Elk Hills Inc. (OEHI), formerly the Elk Hills Naval Petroleum Reserve. The site is currently occupied by out-of-service tanks and related equipment formerly used for the storage and loading of propane, butane, and natural gas liquid products.

Major features of the power plant are: two power trains, each comprised of one 153 to 166 MW Combustion Turbine Generator (CTG), one Heat Recovery Steam Generator (HRSG); one shared 171 MW Steam Turbine Generator (STG); and one six-cell cooling tower. Dry low NOx combustors will be used in each CTG. Each HRSG will be equipped with a Selective Catalytic Reduction (SCR) emission control system that uses anhydrous ammonia in conjunction with a fixed bed catalyst to reduce NO_x in the CTG exhaust gases. The design of the power plant provides for operational flexibility. As planned by Elk Hills, operations may be tailored to readily adapt to changing electrical energy market conditions by using multiple start ups, shut downs, turn downs and peaking.

Proposed ancillary facilities associated with the EHPP are: a 9.8-mile long cooling water supply pipeline connected to the Western Kern Water District's facility at state Highway 119 near the California Aqueduct; a 2,500 foot-natural gas supply pipeline; a 4-mile long wastewater pipeline with deep injection wells; and one of two transmission lines. The preferred transmission line, Route 1A, would be 9 miles long and would terminate at a new substation located on the west side of the California Aqueduct near the community of Tupman. The substation would connect with the existing 230 kV Midway-Wheeler Ridge transmission line. Route 1B would

[1] Elk Hills Power, LLC is incorporated in the State of Delaware. The members of Elk Hills Power, LLC are subsidiaries of Sempra Energy Resources (SER) and Occidental Energy Ventures Corporation (OEVC).

parallel the existing 115 kV Midway-Taft transmission line and would interconnect at the Midway Substation at Buttonwillow.

Elk Hills Power, LLC plans to complete construction and start operation of the EHPP by the summer of 2001. During construction, an average of approximately 240 to 350 workers would be employed. During operation, the EHPP would employ 20 full-time staff.

POTENTIAL ISSUES

This portion of the report contains a discussion of the potential issues Energy Commission staff has identified to date. The Committee should be aware that the list may not include all the significant issues that could arise during the case, as discovery is not yet complete and other parties have not yet had an opportunity to identify their concerns. The identification of potential issues was based on our judgement of whether:

- significant impacts resulting from the project may be difficult to mitigate;
- the project as proposed does not comply with applicable laws, ordinances regulations or standards (LORS);
- conflicts arise between the parties about the appropriate findings or conditions of certification for the Energy Commission decision.

The following table identifies the subject areas evaluated and issue status at this time. Even though an area is identified as having no issue or issues, it does not mean that an issue will not arise related to the subject area. For example, disagreements regarding the appropriate conditions of certification may arise between staff and applicant which will require discussion at workshops or even subsequent hearings. However, staff does not believe such an issue will have an impact on the case schedule or that resolution will be difficult.

Major Issue	Subject Area	Major Issue	Subject Area
Yes	Air Quality	No	Noise
No	Alternatives	No	Paleontological Resources
Yes	Biological Resources	No	Public Health
No	Cultural Resources	No	Socioeconomics
No	Efficiency and Reliability	No	Soils
No	Electromagnetic Fields & Health Effects	No	Traffic and Transportation
No	Facility Design	No	Transmission Line Safety
No	Geology	No	Transmission System Engineering
No	Hazardous Materials	No	Visual Resources
No	Industrial Safety and Fire Protection	No	Waste
No	Land Use	**Yes**	Water Resources
No	Need Conformance		

The following discussion summarizes each potential issue, identifies the parties needed to resolve the issue, and recommends a process for achieving resolution. Staff plans to use this issue identification report to focus its analysis that will be included in the Preliminary Staff Assessment (PSA) and Final Staff Assessment (FSA).

AIR QUALITY

The three critical air quality issues that may affect the timing and possible outcome of the licensing process include: 1) emission reduction credits; 2) steam injection for power augmentation; and 3) the number and types of start-ups per year.

EMISSION REDUCTION CREDITS

Currently the applicant is planning on providing emission reduction credits for all the project emissions (except CO). For PM10 emissions, the applicant has stated that they will use interpollutant offsets at a ratio of 1:1 (NOx:PM10). The San Joaquin Unified Air pollution Control District has recently determined for the La Paloma Power Project the interpollutant offset ratio for NOx:PM10 to be 2.22:1. The applicant has not stated their position on the new District ratio. However, it is very likely that they will agree to the higher offset ratio. Staff hopes to resolve this issue through the first round of data requests.

STEAM INJECTION FOR POWER AUGMENTATION

The applicant is proposing to use steam injection for power augmentation with dry low-NOx (DLN) combustor technology. The DLN combustor has a narrower window of operation than the old combustors. There is a possibility that the steam injection could substantially increase the CO emissions and even cause flame instability. Staff hopes to address these concerns through the first round of data requests by seeking manufacturer documentation.

NUMBER AND TYPES OF START-UPS PER YEAR

The applicant has stated that they will be operating the power plant at full load for extended periods of time. However, they also want the flexibility of having 200 “warm” start-ups per year to respond to changes in market demand for electricity. The applicant has not defined a “warm” start-up as opposed to a “cold” or “hot” start-up. Without further description of how the applicant plans to operate their power plant, staff can not make an adequate determination of operational emissions. Staff hopes to address this issue in the first round of data requests.

BIOLOGICAL RESOURCES

The critical biological resources issues that have been identified to date are: 1) the general vicinity of the power plant is within a highly sensitive area for biological resources; 2) staff may disagree with the applicant’s estimation of total acres of habitat that will be permanently disturbed by project construction and compensation ratios; 3) the presence of a state fully protected species; 4) determining appropriate mitigation to off-set cumulative impacts; and 5) coordination and timing of consultation with agencies authorized to issue biological opinions and permits. The applicant has demonstrated their willingness to resolve past issues, and staff feels

that each of the issues stated above will also be resolved by working closely and cooperatively with the applicant.

POWER PLANT LOCATION

Elk Hills Power Project (EHPP) is located within an area (San Joaquin Valley) which supports more listed species than anywhere in the continental U.S. Elk Hills proper, the adjacent Buena Vista Valley and Lokern Natural Area represent the largest remaining contiguous area of predominantly natural land in the San Joaquin Valley. This block of habitat has been identified as crucial for the recovery of several listed species in this region. Surveys conducted by the applicant have identified several occurrences of 12 sensitive biological resources along the survey corridors of the project.

The applicant has proposed to site linear facilities in a manner that will avoid sensitive resources, as practicable, and compensate for habitat lost. However, it is apparent that several resources will be directly impacted by project construction. Staff will work closely with the applicant to ensure avoidance measures are implemented, temporary habitat disturbances are restored, and permanent disturbances are compensated for by purchasing preserve habitat.

OFF-SITE COMPENSATION

The applicant has stated that 62 to 71 acres of habitat will be permanently impacted by the project but, due to existing disturbances, only 11.9 of newly disturbed habitat will be fully mitigated. Some sensitive species in the area, including San Joaquin kit fox and Hoover's eriastrum star, will occur in disturbed habitat. Although some areas of the project may already be disturbed, placing permanent structures on this land will remove these from future use by the species. Therefore, staff believes that the loss of these areas may also require compensation. Further, the applicant has proposed to compensate for habitat lost using mitigation ratios that are less than the standards used by U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), and the Energy Commission for other projects in the area. Compensation ratios typical for this area are:

- 4.0:1 for permanent loss of conserved habitat,
- 3.0:1 for permanent loss of private habitat,
- 2.1:1 for temporary impacts to conserved habitat, and
- 1.1:1 for temporary impacts to private habitat.

Staff will conduct site visits with the applicant and request aerial photographs to determine areas of permanent disturbance. Staff will also require the applicant to adhere to the agencies' current compensation ratios and work with the applicant to secure appropriate habitat.

FULLY PROTECTED SPECIES

The blunt-nosed leopard lizard, which occurs on the project site, is both a state endangered and state fully protected species. Although CDFG has the authority to issue incidental take permits for listed species, it does not allow take of Fully

Protected species except for scientific study. The only allowable circumstance is total avoidance.

However, the federal government does allow some degree of take, given that the applicant is required to diligently pursue numerous avoidance measures. The degree of take permitted under federal law will be identified in the USFWS Biological Opinion.

Staff will continue to follow CDFG's progress on resolving this discrepancy between state and federal regulations, and keep the applicant abreast of any new developments. Staff will also work with the applicant on procedures to ensure avoidance of take to the extent practicable.

CUMULATIVE IMPACTS

Cumulative impacts refer to two or more individual project impacts that, when considered together, are considerable or which compound or increase other environmental impacts. Of particular concern is the foreseeable development of several projects that will substantially reduce the available habitat for listed and sensitive species or habitats. The southern San Joaquin Valley has experienced considerable conversion of natural habitat to agriculture, urban, and industrial development. Remaining habitat is estimated to be less than five percent of historical values, and much of this is highly fragmented and/or of marginal quality.

There are three other power plant projects planned in the immediate vicinity of the EHPP, and there may be plans for other types of development in the area. Direct and indirect impacts for each project will be mitigated under the conditions of certification and agency consultations, thereby reducing the level of impacts from any one project to less than significant. Considered cumulatively, however, the permanent loss of habitat may exceed 100 acres.

Because most of the sensitive species co-occur on the same natural communities, recovery objectives for listed species in the San Joaquin Valley center around an ecosystem strategy and a community level protection plan that requires securing and protecting large blocks of appropriate habitat. Larger blocks of land are more desirable than several smaller blocks as they minimize edge effects, ensure greater diversity, are less subject to catastrophic events, and facilitate management. Cumulative impacts from the energy projects may be mitigated by ensuring each project contributes, cumulatively, to purchase and protect one large area or region of habitat rather than independently protecting several smaller areas. Staff will recommend the applicant purchase habitat in the Lokern Natural Area under the management of the Center for Natural Lands Management.

AGENCY COORDINATION

A federal Biological Opinion from the USFWS should take 135 - 180 days from the time that consultation is initiated by the Bureau of Land Management. The applicant will have to obtain an Incidental Take Permit (2081b) from the CDFG. Due to heavy workloads at both the USFWS and CDFG, the time taken to obtain federal opinions and the 2081b for recent Commission projects has greatly

exceeded this time frame. Staff will try to work closely with USFWS and CDFG staffs and encourage them to attend all related workshops and site visits.

WATER RESOURCES

The two water resources issues identified to date are associated with the water supply and wastewater discharge/disposal.

WATER SUPPLY

State Water Project (SWP) water, supplied from the California Aqueduct, will be the water supply for the project. This water will come from the Western Kern County Water District's (WKCWD) SWP entitlement. When SWP water is not available, groundwater banked by WKCWD will be used by the project. (For many years, WKCWD has been banking the unused portion of the district's SWP water in the groundwater basin.) Controversy over water allocations within the state and especially water from the Delta may be an issue.

WASTEWATER DISCHARGE/DISPOSAL

Disposal of wastewater from the project will be through the use of three deep injection wells. Although deep well injection of wastewater is often a concern because of the potential for groundwater impacts, this method of wastewater disposal is commonly used in the oil fields in western Kern County. Permitting of the wells may either be through the Central Valley Regional Water Quality Control Board (RWQCB) or the U.S. Environmental Protection Agency (EPA), depending on the level of total dissolved solids (TDS) in the strata the project proposes to discharge into. If the TDS is less than 10,000 mg/l in this strata, the wells are considered Class I wells under the Clean Water Act, and permitting will be through the EPA. However, if the TDS exceeds 10,000 mg/l, then the wells are considered Class IV and permitting will be through the RWQCB. Staff will work with the applicant and agencies to determine the proper permitting required.

SUMMARY OF SCHEDULING ISSUES

Staff has begun its analyses of the major issues identified above, as well as its assessment of other environmental and engineering aspects of the applicant's proposal. As noted above, the first step in that assessment was the issuing of data requests to the applicant on July 6, 1999. Over the next few months staff may issue additional data requests and conduct public data request, data response, and issue resolution workshops to address concerns regarding the applicant's proposal.

Staff's initial findings regarding the major issues discussed above, as well as other environmental and engineering findings regarding the project, will be presented in the PSA which is expected to be filed on November 19, 1999. After filing the PSA, staff will conduct public workshops to discuss its findings, recommendations and proposed conditions of certification. Based on these workshop discussions and other information that may be provided, staff will present its conclusions and recommendations in the FSA which is expected to be filed by January 5, 2000.

Following is staff's proposed schedule for key events for the project. Key events which will dictate whether staff will be able to meet these dates are the applicant's timely response to: staff's data requests; the applicant's submittal of information required by the San Joaquin Valley Unified Air Pollution Control District; the Air District's filing of its preliminary and final Determination of Compliance; the timely review and biological consultations by the California Department of Fish and Game and the U.S. Fish and Wildlife Service. If these and other issues are resolved earlier than expected, staff may be able to file the PSA and FSA before the proposed schedule indicates.

ELK HILLS PROJECT KEY EVENTS		
DATE	**DAYS**	**EVENT**
May 14, 1999	-27	Elk Hills Power Project AFC supplement filed
June 9, 1999	0	Energy Commission deems AFC complete
July 12, 1999	34	**Informational Hearing, Issue Scoping & Site Visit**
July 13, 1999	36	**Data Request Workshop**
August 3, 1999	56	Data Request Responses due from Applicant
October 7, 1999	121	San Joaquin Valley Unified APCD files Preliminary Determination of Compliance (PDOC)
November 19, 1999	164	Staff files Preliminary Staff Assessment (PSA)
December 6, 1999	181	San Joaquin Valley Unified APCD files Determination of Compliance (DOC)
December 16, 1999	191	**Prehearing Conference**
January 5, 2000	211	Staff files Final Staff Assessment (FSA)
January 19, 2000 - February 4, 2000	225 241	**Hearings**
June 7, 2000	365	**Adopt Decision**